

Serial No.: 10/056,908

IN THE CLAIMS:

Please amend the claims as follows:

1-12. (Canceled)

13. (Currently amended): A method for detecting a single nucleotide polymorphism comprising:

- a) providing at least one primer pair, said primer pair containing a reverse primer and a forward primer comprising a 3' end specific for an allele of a single nucleotide polymorphism of interest and a hybridization tag that identifies the primer, said hybridization tag not complementary to the sequence containing said single nucleotide polymorphism of interest;
- b) combining said at least one primer pair with a sample containing single-stranded polynucleotides under stringent conditions which allow hybridization of said primers to complementary sequences in said single-stranded polynucleotides;
- c) extending hybridized primers by primer extension to produce an extension product wherein said extension product ~~comprising~~ comprises said hybridization tag and a detectable label;
- d) hybridizing said extension products by said hybridization tag or the complement thereof under stringent conditions to a capture probe wherein said capture probe is coupled to a ~~particle~~ microbead, said ~~particle~~ microbead identifying said capture probe;

Serial No.: 10/056,908

- e) detecting by flow cytometry the hybridization of said extension product to said capture probe by the presence of said detectable label; and
 - f) determining the identity of said single nucleotide polymorphism based on the identity of said ~~particle~~ microbead.
14. (Original): The method of claim 13, wherein said reverse primer comprises said detectable label.
15. (Original): The method of claim 14, wherein said reverse primer pair is a universal reverse primer.
16. (Original): The method of claim 13, wherein c) is repeated at least once.
17. (Original): The method of claim 13, wherein said at least one primer pair comprises a plurality of primer pairs specific for a plurality of single nucleotide polymorphisms.
18. (Canceled)
19. (Original): A method for diagnosing a disease, condition, disorder or predisposition in a subject comprising, obtaining a biological sample containing at least one polynucleotide from said subject and analyzing said at least one polynucleotide to detect the presence or absence of a single nucleotide polymorphism by the method of claim 13, wherein said single nucleotide polymorphism is associated with a disease, condition, disorder or predisposition.
20. (Currently amended): A method for detecting a single nucleotide polymorphism comprising:

Serial No.: 10/056,908

- a) providing at least one ~~oligonucleotide primer comprising~~ group of at least 2 primers in each group, wherein each primer in said group comprises a hybridization tag that identifies said primer, ~~said primer and each primer in said group~~ having a 3' end specific for a different allele of a single nucleotide polymorphism of interest;
 - b) combining said at least one ~~primer~~ group of primers with a sample containing single-stranded polynucleotides under stringent conditions which allow hybridization of said ~~primer~~ primers to complementary sequences in said single-stranded polynucleotides;
 - c) extending hybridized primers by primer extension to produce an extension product, said extension product comprising said hybridization tag and a detectable label;
 - d) hybridizing said extension product by said hybridization tag under stringent conditions to a capture probe, said capture probe ~~couple~~ is coupled to a ~~particle~~ microbead that identifies said capture probe;
 - e) detecting by flow cytometry the hybridization of said extension product to said capture probe using said detectable label; and
 - f) determining the identity of said single nucleotide polymorphism based on the identity of said ~~particle~~ microbead.
21. (Canceled)
22. (Canceled)

Serial No.: 10/056,908

23. (Currently amended): The method of claim ~~22~~ 20 further comprising a plurality of said primer groups, each primer group specific for a different single nucleotide polymorphism of interest.
24. (Canceled)
25. (Currently amended): The method of claim ~~24~~ 20, wherein said primer extension is a single base primer extension.
26. (Original): The method of claim 25, wherein said single base extension is achieved by using only a single type of nucleoside triphosphate.
27. (Original): The method of claim 25, wherein said single base extension is achieved by using at least one-chain terminating nucleoside triphosphate.
28. (Currently amended): The method of claim 27, wherein said chain-terminating ~~nucleotide~~ nucleoside triphosphate is a dideoxynucleoside triphosphate.
29. (Original): The method of claim 25, wherein said single base extension is achieved by using a plurality of chain-terminating nucleoside triphosphates, each comprising a unique label.
30. (Currently amended): The method of claim 29, wherein said chain-terminating ~~nucleotide~~ nucleoside triphosphates are dideoxynucleoside triphosphates.
31. (Original): A method for diagnosing a disease, condition, disorder or predisposition in a subject comprising, obtaining a biological sample containing at least one polynucleotide from said subject and analyzing said at least one polynucleotide to detect the presence or absence of a single nucleotide polymorphism by the method of claim 20, wherein said single

Serial No.: 10/056,908

nucleotide polymorphism is associated with a disease, condition, disorder or predisposition.

32-35. (Canceled)